ABSTRACT OF THE DISCLOSURE

A method for evaluating the processing delay of a speech signal contained in data packets received in a receiver terminal having a telephony module during a voice call to a terminal sending the data packets over a packet-switched network. The method includes the step of obtaining from the received data packets a stream of audio packets containing the speech signal. Within a predetermined decoding time, the stream of obtained audio packets is decoded and a first reconstituted speech signal is created. At least a portion of the speech reconstituted by the telephony module is duplicated to create a second reconstituted speech signal. The time difference between the first and the second reconstituted speech signals is determined. The processing delay of the speech signal in the receiver terminal is calculated from at least the determined time difference between the reconstituted first and second speech signals and the predetermined decoding time.